DOCUMENT RESUME

ED 178 070 IR 007 813

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TITLE Simulating American Social Structure: An Interactive Game-Simulation for Career and Life Cycle Decisions.
PUB DATE Apr 79
NOTE 23p.; Paper presented at the Annual Conference on Instructional Computing Applications of the Indiana University Computing Network (6th, Indiana University, South Bend, IN, April 24-25, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Programs; *Career Exploration; *Career Planning; *Computer Oriented Programs; *Decision Making; Educational Games; Occupational Guidance; *Simulation
IDENTIFIERS Career and Life Interactive Simulation

ABSTRACT

CALIS is an interactive computer-based simulation developed to assess career decisions and to present decisional alternatives to the players in career and life path choices, assessing the relative consequences associated with these choices. The CALIS game-simulation places the player in the social-psychological situation of an individual confronting American society during the late adolescent through early middle age stages of the life cycle. This social-psychological situation is simulate-operationalized as a micro-economic decision making process where a player allocates his or her time and money to various aspects of the game. The mode of play permits the player to allocate these resources in any "life area," allowing the players to determine the importance of each area and the order of play. Beyond the resource allocation consideration, CALIS also collects player self-evaluations of the utility of their major decisions and the probability of success of attaining their game-oriented goals. The computer uses a graphic ratio-to-standard measure to make these utility and probability determinations. (Author)

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Simulating American Social Structure:

An Interactive Game-Simulation for Career and Life Cycle Decisions

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Paper prepared for the 6th Annual Conference on Instructional Computing Applications of the Indiana University Computing Network. South Bend, Indiana, April 24-25, 1979.

IR007813

I. Introduction

The use of computerized game-simulations as a research method and as an instructional device for the classroom setting derives from the fundamental assumptions that: (1) games are an almost universal aspect of human existence and (2) the structure of games is isomorphic to the normative aspects of social structure (Coleman 1969). These assumptions provide the basis for paradigm development, investigating individual behavior in social situations whose essential features are simulated within the game. From this assumption that social structures can be created in game form follows the premise that the problems faced by people in playing such games is congruent with the essential aspects of problems that they would or could face in real life. These assumptions also formed the motive base for the development of the CALIS (Career and Life Interactive Simulation) game-simulation.

The CALIS simulate is the third in a line of career oriented games (Boocock, 1968; Tallman and Wilson, 1975). Unlike its predecessors, CALIS is not a board game controlled by experimental assistants basing its reward structure on points earned during the game. The problems of this format (Tallman and Wilson, 1974) are not inherent in the computer interactive form of this game-simulate. CALIS is perhaps the most complex and sophisticated instrument for the analysis of player decision choices in the career and life cycle area.

II. Purpose for Developing CALIS

The CALIS computer based game-simulation was developed as the major research instrument for the Occupational Choice and Differentiation of

Career Paths project conducted by the author, Dr. Robert K. Leik of the University of Minnesota and Dr. Anthony Harris of the University of Massachusetts.

Originally, CALIS was developed to investigate the differential entry of blacks and other minorities into the labor market. The complexity of CALIS grew out of the research and a conseling component inherent in this research. The research component utilized CALIS to investigate the "motivational deficiency" hypothesis that blacks and other minorities are not sufficiently motivated into high status occupational positions due to the influence of subcultural norms mediating against this status attainment. The projects alternative hypothesis was that blacks and minorities suffered not from motivational deficiency but rather from a lack of knowledge about career pathways, the occupational reward structures and the consequences of immediate versus deferred gratification. The decision making areas to be presented shortly were alligned to tap into the complexity of these hypothesis. The career counseling component grew from the alternative hypothesis. If a simple lack of knowledge of career paths and life cycle decisions was found to be the dominant cause of differential entry into the labor market, then the CALIS game-simulate could be used to aid minorities in discovering the ways to higher status positions. By playing this computer game-simulation with a counselor a person could discuss their playing patterns and the isomorphism of these patterns with their real life behaviors and alternatives to their current life styles could be explored with the game-simulation assessing the consequences of the players decisions.

III. CALIS: a Description

CALIS was developed to function as a non-discriminating social structure with two major tasks: (1) to present decisional alternatives to

the players in major aspects of life and (2) based on these decisions evaluate the performance of the player in terms of a series of standards and communicate to the player the consequences associated with these decisions. CALIS is non-discriminating in the sense that regardless of a players race, sex, ethnicity or social class the same evaluation standards are applied to each player. In other words the game-simulate hold what are considered sociologically as structural determinants of life chances constant for all players. These standards are based on a series of optimum resource allocations developed by the researchers and in part derived from the empirical sociological literature.

The CALIS game-simulation places the player in the social-psychological situation of an individual confronting American society during the late adolescent through early middle age stages of the life cycle (from age 17 to age 35). This social-psychological situation is simulate-operationalized as a micro-economic decision making process where a player allocates his or her time and money to various aspects of the game. The mode of play permits the player to allocate these resources in any "life area" allowing the players to determine the importance of each area and the order of play. This permits players to develop their own life styles and change them during the course of play. Beyond the resource allocation consideration, CALIS also collects player self-evaluations of the utility of their major decisions and the probability of success of attaining their game-oriented goals. The computer uses a graphic ratio-to-standard measure to make these utility and probability determinations.

In terms of game-consequences, CALIS evaluates a players performance and provides feedback based on these evaluations. Resources allocated in the education area determine a round by round grade for the player in high school, college or professional school. These evaluations then cumulate and

determine a players successful application to college and later in the game to graduate or professional school. These educational evaluations also govern the players ability to transfer to different schools. The final educational evaluation also forms the basis for the transferability of performance rating from the education to the occupation life area.

Within the occupational area, similar performance ratings on the players are generated, again based on resource evaluations. These evaluations then determine such things as pay increases, job promotions and the ability for a player to transfer from one job to another.

The third area of evaluation utilizes a concept of life balance. This concept assumes that if a person is to live a non-pathological life, the player must balance their time between work or education and social support activities (e.g. family, friends). Where a player devotes an excessive amount of time to one area of play to the neglect of the other areas, CALIS provides the player with negative feedback messages and if the balance is not changed the players performance ratings in other areas will begin to be negatively effected.

In sum, the social structure of the CALIS game-simulation performs a continuous process of player evaluations, just as society through its agencies evaluates each individual continuously. The consequences of these evaluations may either open or close opportunities and career paths for an individual player as well as determining simulate payoffs to the player.

One final note on the continuous processes in CALIS. The game simulate also provides the player with a running, "on-demand" accounting facility which feedsback to the player the current amounts of time and money remaining to be allocated in the round. At the end of a round (one round equals 1 year) any hours not allocated are lost to the player and any money remaining is automatically transferred to the players savings account.

A. The Life Areas of CALIS

As in any game simulation the realism of the simulation structure depends on its designers understanding of the system to be modeled and the number of causal linkages reflected in the model. When CALIS was created it was recognized that only by providing the game with a maximum of flexibility could the realism of social life be captured. In other words, the decision making process had to be such that free access to all game areas be given to the player in a round of play. CALIS was designed in a multi-lateral way rather than in a linear manner which would have forced the subjects to play the life area in sequence. Figure 1 diagrams the overlay flowchart which shows how this flexibility was accomplished.

Figure 1 about here

This mode of game structuring allowed for the players to create their own career paths. A few of the many life cycle and career paths that emerged during the piloting of CALIS are:

(1) High School → College → Graduate School → Occupation → Marriage

(2) High School → Marriage → Occupation → College → New Occupation

(3) High School (Drop out) → Work → Marriage → Divorce

(4) High School → College (Drop out) → Marriage → Work

These paths reflect a wide variety of high school students perceptions as to the timing of significant life cycle events and entry into the labor market.

Not only was CALIS designed to discover over time career path sequencing but also to probe within round patterns of decision choice, in terms of player preference for the various life areas. A variety of within

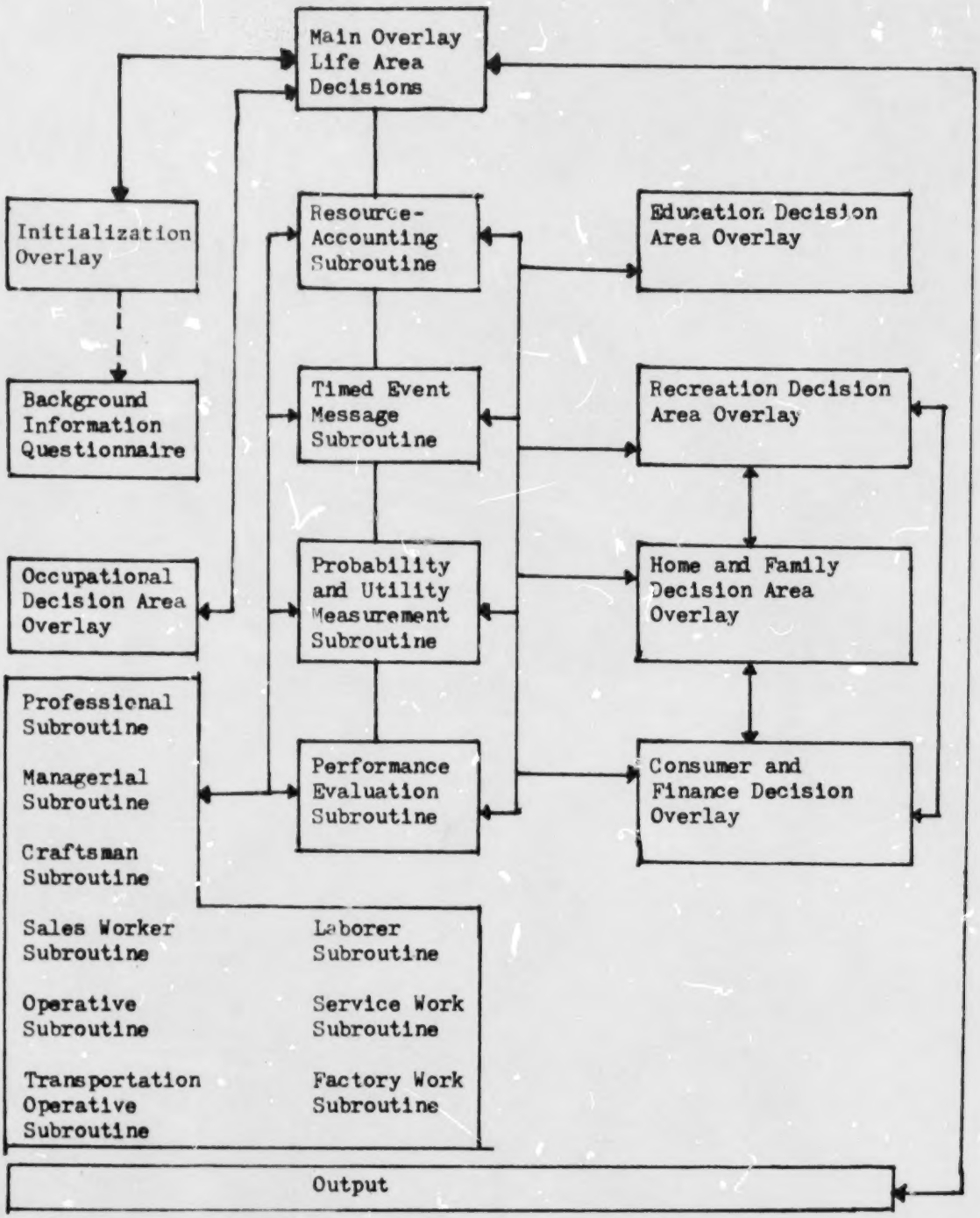

Figure 1. Overlay Flowchart of the CALIS Game Simulation

round possibilities of area importance also emerged during piloting, for example:

(1) Recreation area --- Education area --- Finances area

(2) Education area --- Part time employment --- Recreation area

(3) Employment area --- Education area --- Recreation area --- Finances area

In the post game interview with the pilot subjects, it was learned that these sequences tended to indicate those areas of the game which were most important to them or most enjoyable.

1. The Educational Decision Making Area

CALIS assumes that the player is about age 17 as the game begins. As such the player is assumed to be a high school junior. After entering the education decision area the player indicates whether or not he or she is in an academic or a vocational track. Then the player allocates time for studying per week for the round. The subject may also change from one curriculum to the other if their performance evaluation in round 2 is high enough. During the players senior high school round this person may decide to apply to several types of colleges or technical schools, regardless of whether or not the computer-counselor advises this decision or not based on the player's evaluation. College options include Ivy League college, attending a State University, a community college or a technical school. The player is given a time-delayed feedback message as to his or her acceptance or rejection by these schools. Each type of school has a different level of evaluated performance to rate the player for acceptance.

If accepted, the college cycle permits the player to pick a "major" signified in terms of professional careers which match those in the occupational routine exactly. The decision of a major, divides the players

performance evaluations into "hard" and "soft" sciences and professions. This division differentially weights the performance evaluation in terms of optimum study time allocations. Besides, the normal study time decisions, a player may also transfer from one type of college to another, again depending on their performance rating.

If a person chooses a college rather than a technical school, during their senior year a player may be advised to apply to graduate or professional school. Again the player goes through the application process, the evaluation process and the acceptance-rejection process. The types of graduate education include, Ivy League graduate school, State University graduate study and Professional school (e.g. Law School or Medical School). The remaining decisions are again similar to the college routine but again the optimum allocation of studying time increases, to remain in school.

After a player completes the education cycle, stopping or restarting this cycle at will during the game, CALIS creates a transfer score which is used in the application process for entry into the labor market.

2. The Labor Market or Occupational Decision Making Area

The occupational decision making area included nine sub-area of jobs which correspond to representative examples of positions from the major classifications from the 1970 Census.

Prior to a player terminating their educational cycle, he or she is limited only to part-time work at up to 30 hrs./week. Once out of school, for whatever reason, a player is permitted to hold a full-time job. Part-time work is limited to only jobs in the Sales, Clerical, Craftsman, Operative, Laborer and Service categories. All part-time jobs have a starting salary of $3.00/hr. Players work for the number of hours of their choice. Applications for part-time work are evaluated on a random basis

where the player has a 60% chance of getting the part-time work. This procedure is meant to simulate a job market where there is a large number of applicants for any job with each being about equally qualified since the majority of these positions do not have a high skill level. Again, a player may change part-time jobs and hold more than one job at a time.

For a full-time job, the player must be out of school during the round that he or she applies for the job. Later, after obtaining the job, the player can reenter school on either a part or full-time basis. The offers of starting salaries for the full-time positions were based on median incomes for each job as reported in the 1970 census. CALIS also assigns vacation time and work hours per occupations with the exception of professional and managerial positions. For these positions a player is expected to spend extra hours working in order to obtain salary increases and promotions.

Obtaining each position naturally involved an application process and a player performance evaluation based on college performance, whether or not a player's college major has prepared this person for the position (if this is the first job application), previous job performance evaluations and a random component again representing job competition. If CALIS makes a job offer, it still rests with the player to make the acceptance decision based on the job description furnished by the computer.

After a full-time job is accepted, a player may choose to change jobs in the same category or into another job category. A player may easily exhibit downward mobility by applying for a lower status position. Upward mobility is only accomplished through returning to the education process. Again transferability of job experience is based on job performance which effects the application process and the new starting salary.

Finally, a player holding a full-time job may also hold a part-time position which will increase that players game-income and only has an effect on performance evaluations through the life balance component.

3. The Recreational Decision Making Area

The recreational decision making area in conjunction with the consumer-financial area was developed to investigate the players conceptions of deferred or immediate gratification. This area provides a wide range of activities over which a player may allocate time and money. These activities include sports, friendships, visiting relatives, watching television, reading, hobby-craft activities, music related activities, church related activities, vacations and dating behaviors. Instead of the game presenting specific activities in these areas, CALIS asks open ended questions and permits the player to describe their own recreational activities in detail. This procedure adds to the realism of the game and avoids any implicit sexism or racism in the nature of the activities.

In activities where the purchase of equipment is necessary in the game situation, a player is transferred to the consumer-finance area for the purchase of this equipment. Dating activities are a necessary prerequisite for marriage in the Home and Family area. Visiting with friends and relatives enters the evaluation component of the game since time spent on these activities contributes to the life balance evaluation.

4. The Home and Family Decision Making Area

This area of CALIS is concerned with several critical life cycle events. Primarily these events include breaking with ones family of orientation and starting ones family of procreation. This area allows for decisions necessary for the development of independent living, renting an apartment or home, home ownership, getting married, having children, the

option of getting a divorce, and moving the family unit. Time and money allocations are again necessary for each decision and the amount of time that a player spends with their "family" contributes to the life balance performance evaluation.

5. The Consumer-Finances Decision Making Area

This final area of the CALIS game-simulation was developed in conjunction with the recreation area to investigate the deferred versus immediate gratification component of the major hypothesis. This area explores consumer behavior by allowing the player to make purchases of clothing, sports equipment, automobiles, boats, furniture, home repairs, books, magazines, televisions, hobby equipment, records and tapes, alcohol and cigarettes. Once purchased the game also allows for these commodities to be sold at a fraction of their original purchase price.

As a sub-component of this area a player may also take out loans, that are evaluated on the basis for work performance, and open a savings account. Unlike the recreation area where most of the resource allocations are made in terms of time, the finances area is mainly money oriented in its allocations.

IV. Validity of the CALIS Game-Simulation

Given the complexity and multiple purposes of this game simulation, the usefulness of standard criteria of validity appears questionable (Snubik, 1970). However, two criteria appear relevant at this stage in the development of CALIS; face validity and rule consistence.

Face validity describes the extent to which the game reproduces the simulandum (Boocock, 1972; Hermann, 1967). In this case the simulandum is American social structure as viewed from the perspective of the individual.

Boocock (1972) notes that it is imperative that the player view the game-simulation as being consistent with their experience in the real world.

To assess this aspect of validity, two small groups of pilot subjects were used and asked to evaluate CALIS from their own experiences. One group was an older group of university staff (ages 25-40) who were asked to attempt to reconstruct their life experiences using CALIS. The second group of players were high school juniors from Easthampton High School in Massachusetts. This latter group was asked to evaluate the game in terms of their expectations for the next ten years.

In the older group, seven out of ten players were able to reconstruct their own career paths to their current age. If their age was less than the maximum simulate age, these players also found that the game met their expectations for the next years. The three players who were not able to reconstruct their lives completely, pointed out that some major and unforseen event had occurred to them at some point in their careers and that the impact of this event changed their career paths. At present such events are not included as part of CALIS. In the high school group, their comments during post play interviews indicated that all aspects of their current lives were included as part of the game decisions (i.e., all legal aspects) and that play of the game conformed to some of their conceptions of their futures. Again the presence of a major event occurring in the life of one of these players prevented him from setting up a full description of his life decisions. These students also commented that while future play conformed to some of their expectations, they indicated that they did not realize how complex their "future" lives could become. Two other comments from these pilot players of note: (1) that the playing time required for the game (2-3 hr.) did not produce fatigue but rather kept the students at a high level of stimulation and (2) that each had learned something from the game

and desired to try out new simulate life styles at a later time. From the comments of these pilot players during the post play interview sessions it appears that CALIS has reasonable face validity.

The second aspect of validity relevant to CALIS is rule consistency. This aspect of validity is concerned with the consistent application of the game rules to all players. In the board versions of career games this is a problem originating with the research assistants and the differential application of rules (Tallman and Wilson 1974). With the computer game-simulation there is little problem with the application of rules. As stated before, CALIS was conceived to be non-discriminating and all rules are applied consistently to all participants. The computerization of this career simulation has resolved all of the rule consistency problems which plague board games. Overall, at this stage in the development, CALIS has good validity by these criteria. Further experimentation in full research settings would enable the game to be evaluated for discriminant or predictive validity.

V. Conclusion: The Future Utility of CALIS

This paper has presented a description of the CALIS career and life cycle game simulation. The potential utility of this simulation remains to be fully explored. In these last few paragraphs, I will suggest some of the possible ways in which CALIS may be utilized.

In terms of the game's utility as a research instrument, the pilot study found several different career paths. Many more remain to be uncovered and explored in terms of their subcultural linkages. The complexity and amount of information provided by CALIS would permit many different kinds of research endeavor. Such endeavors could include further pursuit of the motivational vs knowledge questions which prompted the

development of CALIS, the exploration of sex differences in career paths, studies of future consumer behavior, life cycle research exploring such significant events as marriage and desired family size, and labor market studies. With minor modifications CALIS has the potential of starting play at any age or stage in the life cycle for the players. Similarly, the duration of play could be expanded and studies of middle and old age decisions could be explored in the simulation.

Beyond its potential as a research instrument, CALIS also shows promise as a career counseling and guidance device. As our pilot study indicated, the players desired to utilize CALIS as a "safe" way of exploring different life styles and their consequences. In the counseling situation, sexual, racial, and ethnic patterns of play may reveal problems that a person may encounter or self-imposed barriers to achievement which may be rectified. A report summary from CALIS, would enable a counselor to examine, in detail, the career expectations of a player.

In summary, CALIS is a game-simulation waiting to be utilized to explore some of the more complex aspects of life cycle and career patterns on an individual or group level.

Technical Notes on CALIS

CALIS is written in FORTRAN for the C.D.C. Cyber 74 facility at the University of Massachusetts at Amherst. It is currently being modified for use in the Indiana C.D.C. Network. The program is in overlay structure and requires 54k to compile and 48k to load. For use on the Indiana system, this requires separate compilation and loading operations.

The game simulation is meant to be played interactively on any 16 line CRT terminal. Input is freefield from the terminal. CALIS creates two types of output--a round by round accounting of all decisions made in the

game and a restart file. The restart file enables the researcher to restart a player at the (n-1)th round of play if the game has not been completed.

The game also includes a series of control switches that may be set by the researcher. These control switches may selectively cut off portions of the game so that only portions of the game may be used and tailored to the needs of the project.

The following three pages illustrate play of the CALIS game in each of the decision areas.

SAMPLE OF PLAY FOR CALIS

```
 IS THIS A RESTART ? 1=YES, 0=NO ——————————→ Option permitting a restart at any round
? 0
 IS THIS A PRACTICE ROUND? 1=YES 0=NO ——————→ Option for practice or play
? 0

      WELCOME
 YOU ARE ABOUT TO PLAY A GAME THAT      PERMITS YOU
 TO MAKE DECISIONS ABOUT HOW TO SPEND TIME AND      MONEY
 IN A SIMULATED CAREER

 NOTE   THIS IS NOT A TEST     THERE ARE NO WRONG CHOICES.
 IF AT ANY TIME YOU WANT TO STOP     THIS GAME AT ANY DECISION-TYPE 999
 NOTE  ANY QUESTION THAT     ASKS A YES/NO QUESTION 1=YES 0=NO ALWAYS
 AFTER A QUESTION      HAS BEEN ASKED PLEASE WAIT UNTIL THE COMPUTER PRINTS A  ?
 IF YOU RESPOND TOO FAST THE COMPUTER WILL STOP THE GAME.
 THE ASSISTANT WILL GIVE YOU ANY FURTHER INSTRUCTIONS.
                GOOD LUCK
? 0                                                    { Computer Introduction
                                                       { and Instructions to
                                                       { player-subject


 PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF
 AND YOUR FAMILY. ALL ANSWERS ARE TOTALLY CONFIDENTIAL
 TYPE IN A ZERO IF YOU DON'T KNOW AN ANSWER OR DO NOT WISH TO
 TO RESPOND.
 WHAT IS YOUR PRESENT AGE,PLEASE?                      Computerized Questionnaire
? 17                                                   (currently for information
 WHAT IS YOUR SEX? 1=MALE 0=FEMALE ←——————————————{ purposes only but may be
? 1                                                    modified to begin play
 WHAT IS YOUR RACIAL OR ETHNIC BACKGROUND?             at any point in a players
 1=BLACK AMERICAN                                      life cycle)
 2=NATIVE AMERICAN
 3=WHITE      AMERICAN
 4=HISPANIC AMERICAN
 5=ASIAN AMERICAN
? 3
 HOW MANY BROTHERS AND SISTERS WERE/ARE IN YOUR FAMILY?
? 1
 ARE YOU PRESENTLY ?
 1=SINGLE (LIVING WITH PARENTS
   2=SINGLE (LIVING ALONE)
 3=MARRIED
 4=WIDOWED
   5=SEPARATED
 6=DIVORCED
? 1
 ARE/WERE YOUR PARENTS?
 1=MARRIED AND LIVING TOGETHER
 2=SEPARATED (YOU LIVED WITH YOUR MOTHER)
 3=SEPARATED (YOU LIVED WITH YOUR FATHER)
 4=DIVORCED (YOU LIVED WITH YOUR MOTHER)
 5=DIVORCED (YOU LIVED WITH YOUR FATHER)
 6=WIDOWED (YOU LIVED WITH YOUR MOTHER)
 7=WIDOWED (YOU LIVED WITH YOUR FATHER)
 8=BOTH PATENTS DECEASED,YOU LIVED WITH A RELATIVE
 9= RAISED IN A CHILDRENS HOME OR INSTITUTION
? 1

 FROM THE LIST OF OCCUPATIONS, PLEASE FIND AND TYPE
   IN THE NUMBER OF THE OCCUPATION WHICH IS CLOSEST TO YOUR FATHERS  JOB.
? 235                                                  { Occupation numbers
                                                       { correspond to categories
 FROM THE LIST OF OCCUPATIONS, PLEASE FIND AND TYPE    { in the 1970 U.S. Census
   IN THE NUMBER OF THE OCCUPATION WHICH IS CLOSEST TO YOUR MOTHERS  JOB. ←{ occupation dictionary
? 999
 PLEASE PICK THE CATEGORY WHICH COMES THE CLOSEST TO
 DESCRIBING YOUR FAMILY INCOME FOR THE LAST YEAR.
 1=UNDER $5,000
 2=$5,000 TO $10,000
  3=$10,000 TO $15,000
 4=$15,000 TO $20,000
 5=$20,000       TO $20,000
  6=$25,000 TO $30,000
 7= OVER $30,000
? 3
 PLEASE ENTER THE NUMBER OF YEARS OF YOUR FATHERS SCHOOL ING.
? 8
 PLEASE ENTER THE NUMBER OF YEARS OF YOUR MOTHERS SCHOOL ING.
? 12
 WHAT ARE YOUR PRESENT EDUCATIONAL STATUS?
   1=HIGH SCHOOL-COLLEGE PREPARATRY
   2=HIGHSCHOOL-VOCATIONAL TRAINING
   3=IVY LEAGUE COLLEGE
   4=STATE UNIVERSITY
   5=JUNIOR OR COMMUNITY COLLEGE
   6=TECHNICAL COLLEGE
   7=EXTENSION EDUCATION
   8=IVY LEAGUE-GRADUATE SCHOOL
   9=STATE UNIV-GRADUATE SCHOOL
  10=IVY LEAGUE-PROFESSIONAL SCHOOL
  11=STATE UNIV-PROFESSIONAL SCHOOL
  12=NOT ATTENDING SCHOOL
? 1
SINCE THE GAME PROVIDES FOR YOU TO SET UP YOUR PRESENT
 OCCUPATIONAL STATUS,NO QUESTIONS WILL BE ASKED ABOUT ANY
  JOB THAT YOU MAY HAVE NOW.
```

SAMPLE OF PLAY FOR CALIS

I. LIFE GOALS AND PERCEIVED PATHWAYS ORIENTATIONS

```
 YOU ARE NOW STARTING ROUND   1 YOUR AGE IS   17
 YOU MADE       0.00 DOLLARS FOR PLAYING THIS GAME

 BY ORDER OF THEIR  IMPORTANCE TO YOU
 PLEASE RANK      THESE MAIN GOALS IN LIFE.
     1= A HIGH PAYING JOB
     2= A HAPPY MARRIAGE
     3= BEING WELL LIKED BY FRIENDS AND FELLOW WORKERS
     4= HELPING OR SERVING OTHERS
     5= BEING AN IMPORTANT OR POWERFUL PERSON
? 5,2,3,4,5
 WHAT DO YOU THINK IS THE BEST PATHWAY TO ACHEVING      THE FIRST GOAL?
 PLEASE NUMBER THE FOLLOWING STEPS TO THIS       GOAL.
    1= GET A COLLEGE EDUCATION
    2= GET JOB EXPERIENCE
    3= GET MARRIED AND HAVE CHILDREN
    4= BUY EXPENSIVE THINGS
    5= MAKE AND KEEP MANY FRIENDS
? 4,2,3,4,5

 YOU PRESENTLY HAVE THE FOLLOWING RESOURCES REMAINING THIS YEAR
 NUMBER OF HOURS =           4000 (   76 /WEEK)
 NUMBER OF DOLLARS = $    1000.00 (   19.23 /WEEK)
 AMOUNT IN SAVINGS ACCOUNT = $       0.00
 AMOUNT IN DEBT    = $       0.00
? 1

 THE FOLLOWING ARE LIFE AREAS WHERE YOU CAN MAKE ONE OR     MORE DECISIONS
 1= EDUCATION
 2 = RECREATION
 3 = EMPLOYMENT
 4 = HOME    AND FAMILY
 5 = FINANCES
 6 = END THE ROUND
 7 = END THE GAME

 IN WHICH LIFE AREA WOULD YOU LIKE TO MAKE DECISIONS?
? 1
```

LIFE GOALS

PATHWAY TO FIRST LIFE GOAL

Automatic resourse check

Life area decision choices

II. THE EDUCATIONAL DECISION AREA

Sample of play from junior year in high school only.

```
 WHAT IS YOUR PRESENT CURRICULUM
 1=COLLEGE PREPATORY
 2=VOCATIONAL CURRICULUM ?
? 1

 HIGH SCHOOL COURSES ARE 5/TERM
 YOU SPEND 6HR/DAY     IN CLASSES.
 HOW MANY HOURS/DAY DO YOU WANT TO SPEND STUDYING FOR
THESE COURSES ? (INCLUDING INSCHOOL AND HOME STUDY)
? 4

 HOW SATISFYING IS A GOOD GRADE TO YOU?
  ----------
? ----------------------------------
 CHANCES OF GETTING SATISFACTION
  ----------
? ----------------------------------

 YOU WILL BE NOTIFIED LATER ABOUT YOUR GRADES
         FOR THIS YEAR.
```

Time resourses allocated for grade determination

Truncated ratio-to-standard measure for utility (ie.satisfaction) and probability of getting this utility.

SAMPLE OF PLAY FOR CALIS

III. RECREATIONAL AREA

```
IN WHICH LIFE AREA WOULD YOU LIKE TO MAKE DECISIONS?
? 2

NOTICE
YOUR EXPECTED OVERALL SCHOOL GRADE IS A   FOR THIS YEAR.
WHAT WOULD YOU LIKE TO DO?
? 1
WHAT SPORT WOULD YOU LIKE TO PARTICIPATE IN ?
PLEASE TYPE IN YOUR OWN CHOICE.
? SWIMMING
HOW MANY HOURS/WK WOULD YOU LIKE TO SPEND ON THIS ACTIVITY ?
? 3
DO YOU OWN THE NECESSARY EQUIPMENT? 1=YES 0=NO
? 1
DO YOU WANT TO CHOOSE ANOTHER RECREATIONAL ACTIVITY     THIS YEAR? 1=YES 0=NO
? 1
WHAT WOULD YOU LIKE TO DO?
? 3
HOW MANY HOURS/WK WOULD YOU LIKE TO SPEND ON THIS ACTIVITY ?
? 2
WHAT WILL YOU DO TOGETHER ?
PLEASE TYPE IN YOUR OWN  ANSWER.
? GO ON A PICNIC
DO YOU WANT TO CHOOSE ANOTHER RECREATIONAL ACTIVITY     THIS YEAR? 1=YES 0=NO
? 1
WHAT WOULD YOU LIKE TO DO?
? 10
WHERE WOULD YOU LIKE TO GO ON VACATION ?
PLEASE TYPE IN YOUR OWN ANSWER.
? EUROPE
HOW MANY WEEKS WOULD YOU LIKE TO SPEND ON VACATION?
? 2
HOW MUCH MONEY DO YOU WANT TO SPEND ON THIS VACATION?
? 500
DO YOU WANT TO CHOOSE ANOTHER RECREATIONAL ACTIVITY     THIS YEAR? 1=YES 0=NO
? 1
WHAT WOULD YOU LIKE TO DO?
? 11
WHERE WOULD YOU LIKE TO GO WITH YOUR DATE ? (ASSUMING YOCAN
GET ONE.---PLEASE TYPE IN YOUR OWN CHOICE.
? MOVIE
HOW MANY HOURS/WK WOULD YOU LIKE TO SPEND ON THIS ACTIVITY ?
? 3
HOW MUCH MONEY DO YOU WANT TO SPEND /WK ON DATES ?
? 7
DO YOU WANT TO CHOOSE ANOTHER RECREATIONAL ACTIVITY     THIS YEAR? 1=YES 0=NO
? 777
YOU PRESENTLY HAVE THE FOLLOWING RESOURCES REMAINING THIS YEAR
NUMBER OF HOURS =          860 (   16 /WEEK)
NUMBER OF DOLLARS = $   2086.00 (   40.12 /WEEK)
AMOUNT IN SAVINGS ACCOUNT = $      0.00
```

Note: this is the delayed feedback message from the education area.

Input provides for player to determine own activities

Example of On-demand Resource Check

Decision Options

1= Sports Activities
2= Visit Friends
3= Visit Relatives
4= Watch Television
5= Read a Book
6= Hobbies or Crafts
7= Listen to Music
8= Club,Union activities
9= Church Activities
10= Vacation
11= Dating Activities
12= Leave this area

SAMPLE OF PLAY FOR CALIS

IV. OCCUPATIONAL AND JOB DECISION AREA

```
 3
 WOULD YOU LIKE TO APPLY FOR A
 1=PART TIME JOB
 2=AFULL TIME JOB ?
 NOTE  YOU MAY HOLD BOTH JOB TYPES AT THE SAME TME
? 1

 IN WHICH AREA WOULD YOU LIKE TO GET A JOB ?
 1=CRAFTSMAN(EG.BAKER,BRICKLAYER,MECHANIC,ELECTRICIAN,TAILOR)
 2=LABORER (EG.GROUNDSKEEPER,CONSTRUCTION WORK)
 3=EQUIPTMENT OPERATOR(EG.ASSEMBLER,MEAT CUTTER,FURNACEMAN)
 4=CLERICAL(EG.BOOKEEPER,SECRETARY   ,TELEPHONE OPERATOR)
 5=TRANSPORTATION(EG.TRUCK DRIVER,TAXI DRIVER,BUS DRIVER)
 6=SALES WORK(EG.SALESPERSON,INSURANCE AGENT,ADVERTISING AGENT)
 7=SERVICE WORK(EG.JANITOR,HAIRDRESSOR,POLICE OFFICER,WAITER)
 NOTE  ALL POSITIONS ARE JUNIOR GRADE POSITIONS.
? 3

 YOU MAY APPLY FOR ONE OF THE FOLLOWING POSITIONS
    1=FACTORY WORKER-PARTS ASSEMBLER-SEWER,STITCHER
    2=INSPECTOR(EG.MANUFACTORED GOODS,PRODUCE)
    3=FURNACEWORKER (METALSMELTER)
    4=GAS STATION,GARAGE ATTENDENT
    5=LAUNDRY OR DRYCLEANER
    6=MEAT CUTTER
    7=COAL MINER
    8= PACKER
    9=PUNCH PRESS,LATHE,STAMP PRESS,DRILL PRESS OPERATOR
    10=TEXTILE MILL WORKER
    11= WELDER OR RIVETER
? 4
 AT HOW MANY PLACES OF EMPLOYMENT WOULD YOU LIKE TO APPL Y?
? 10
 HOW SATISIFYING IS GETTING THIS JOB?
  --------------------
? ------------------------------------
 CHANCES OF GETTING SATISFACTION
  ------------------
? ------------------------------------

 YOU ARE OFFERED PART-TIME POSITION AS A GAS STATION ATTENDENT
    AT $3.00/HR. WILL YOU ACCEPT THE POSITION ? 0=NO 1=YES
? 1
 HOW MANY HOURS PER WEEK DO YOU WANT TO WORK? LT. 40
? 20
 YOU PRESENTLY HAVE THE FOLLOWING RESOURCES REMAINING THIS YEAR
 NUMBER OF HOURS =          1500 (   28 /WEEK)
 NUMBER OF DOLLARS = $   2950.00 (   56.73 /WEEK)
 AMOUNT IN SAVINGS ACCOUNT = $      0.00
 AMOUNT IN DEBT    = $      0.00
?
```

Job Classifications from the major areas of the 1970 U.S. Census

Job Choices within the 'Equipment Operator' Occupation Area

Subjective Utility and Probabiiity measures

Note: All part time positions start at $3.00/hr

Automatic Resource Check

SAMPLE OF PLAY FOR CALIS

V. FINANCES DECISION AREA

```
 IN WHICH LIFE AREA WOULD YOU LIKE TO MAKE DECISIONS?
? 5
 WOULD YOU LIKE TO
 1=BUY SOMETHING
 2=SELL SOME   THING
 3=SAVE SOME MONEY
 4=TAKE OUT A LOAN
? 3

 YOU HAVE $       0.00 IN YOUR SAVINGS ACCOUNT.
 DO YOU WANT TO
 1=DEPOSIT OR 2=WITHDRAW MONEY?
? 1
 HOW MUCH MONEY DO YOU WISH TO TRANSFER?
? 1000
 DO YOU WISH TO SPEND MORE TIME IN THIS AREA?
? 1
 WOULD YOU LIKE TO
 1=BUY SOMETHING
 2=SELL SOME   THING
 3=SAVE SOME MONEY
 4=TAKE OUT A LOAN
? 1

 WHAT WOULD YOU LIKE TO DO?
? 3
 HOW MANY WEEKS DO YOU WANT TO SPEND SHOPPING?
? 1
 HOW MUCH TIME/WK DO YOU WANT TO SPEND ON THIS ACTIVITY?  (INCLUDING SHOPPING)
? 3

 IS THIS YOUR FIRST AUTO BUY? 1=YES 0=NO
? 1
 DO YOU WANT TO BUY  1=NEW OR 0=USED CAR
? 0
 WHAT MAKE OF CAR ARE YOU INTERESTED IN?
 PLEASE       TYPE IN YOUR OWN CHOICE.
? OLD VOLKSWAGEN
 HOW MUCH DO YOU WANT TO SPEND ON THIS CAR?
? 500
 DO YOU WISH TO SPEND MORE TIME IN THIS AREA?
? 0

 IN TERMS OF ALL DECISIONS MADE IN THIS AREA, HOW
   SATISFIED ARE YOU?
```

Decision Options

1= Clothing
2= Sports Equipment
3= Automobile
4= Boat
5= Furniture
6= Home improvements
7= Books/Magazines
8= Television
9= Hobby/Craft Equipment
10= Records/Tapes
11= Purchase a Home
12= Rent Apartment
13= Alcohol and Cigarettes
14= Leave Area

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